CMPT260 Quiz 1
October 12, 2006
In class, 30 minutes

Instructions: Do not use a light pencil. A portion of the marks awarded will be for the style and clarity of your result. Answer questions in a separate booklet. In addition to the rules provided, you may also use the implication identity that $P \Rightarrow Q \equiv \neg P \lor Q$.

1. (20 marks) Give truth tables for the following:
   a. $A \Rightarrow B$
   b. "A unless B", that is, "A if not B".
   c. $(P \Rightarrow Q) \land (Q \Rightarrow R) \Rightarrow (\neg P \lor R)$

2. (5 marks) Is $P \Rightarrow P$ a tautology? Justify your answer.

3. (5 marks) Give an example of a contradiction.

4. (10 marks) Given premises $A \lor B$, $A \Rightarrow D$, $\neg D$, give a proof of B.

5. (10 marks) Give a proof of $(P \Rightarrow Q) \Rightarrow (P \land R \Rightarrow Q \land R)$.